

Title (en)  
Superconducting circuit, production method of superconducting joints, superconducting magnet, and production method of superconducting magnet

Title (de)  
Supraleitende Schaltung, Herstellungsverfahren für supraleitende Verbindungen, supraleitender Magnet und Herstellungsverfahren für supraleitenden Magnet

Title (fr)  
Circuit supraconducteur, procédé de production de joints supraconducteurs, aimant supraconducteur et procédé de production de l'aimant supraconducteur

Publication  
**EP 2418703 A2 20120215 (EN)**

Application  
**EP 11187582 A 20100729**

Priority  
• EP 10007927 A 20100729  
• JP 2009176537 A 20090729

Abstract (en)  
A superconducting circuit comprising a superconducting joint (13) that joints a niobium titanium superconducting wire (12) has a structure where a filament (18) made of niobium titanium alloy is arranged in a matrix (19) made of copper or copper alloy and other superconducting wire (12). In operation, a magnetic field intensity where the superconducting joint (13) is placed is smaller than the magnetic field intensity where a main coil (1a, 1b) of the niobium titanium superconducting wire (12) in a portion other than the superconducting joint (13) is placed. When the niobium titanium superconducting wire (12) in the superconducting joint (13) and the niobium titanium superconducting wire (12) in the portion other than the superconducting joint (13) are placed in the same magnetic field intensity, a critical current density of the filament (18) in the superconducting joint (13) is lower than the critical current density of the filament (18) in the niobium titanium superconducting wire (12) in the portion other than the superconducting joint (13).

IPC 8 full level  
**H01F 6/06** (2006.01); **H01L 39/02** (2006.01)

CPC (source: EP US)  
**H01F 6/065** (2013.01 - EP US); **H10N 60/80** (2023.02 - EP US); **Y10T 428/12819** (2015.01 - EP US)

Citation (applicant)  
• US 4907338 A 19900313 - THORNTON ROY F [US]  
• JP H05152045 A 19930618 - MITSUBISHI ELECTRIC CORP  
• "Basics of Superconductor Applications", SANGYO TOSHO PUBLISHING CO., LTD.

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BA ME RS

DOCDB simple family (publication)  
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DOCDB simple family (application)  
**EP 10007927 A 20100729**; EP 11187582 A 20100729; JP 2009176537 A 20090729; US 84547410 A 20100728